

**REMARKS**

Regarding the status of the present application, Claims 1-5 are pending in this application. Reconsideration of this application is respectfully requested. It is respectfully submitted that this response does not require further searching on the part of the Examiner. It is also respectfully submitted that this response places this application in condition for allowance, or in any event, places it in a better condition for consideration on appeal.

Claim 1 was rejected under 35 U.S.C. § 102(a) as being anticipated by US Patent No. 6,141,141 issued to Wood. The Examiner's position is that "Wood shows in Fig. 2-4 a signal controlled laser oscillator  $f_c$ , a signal controlled microwave oscillator  $f_m$ , and a single sideband mixer producing  $f_c - f_m$  and  $f_c + f_m$ ."

Claim 1 calls for a virtually coherent signal controlled laser oscillator comprising:

a signal controlled laser oscillator that receives a fixed bias input signal and outputs an optical frequency signal  $f_0 + f_m$ ;

a signal controlled microwave oscillator that receives a frequency control input signal and outputs a microwave frequency signal,  $f_m$ ; and

a single sideband mixer that processes the signal output by the laser oscillator and microwave oscillator to output a signal controlled optical frequency signal.

The Wood patent discloses "an optical reference frequency generator comprising a plurality of Single Sideband Optical Frequency Shifters (SSB-OFS) wherein the SSB-OFSs are connected in pairs, each pair having a common optical frequency input and an optical shift frequency input arranged so that the output from one SSB-OFS of each pair has a positive frequency shift and the output from the other SSB-OFS has a negative frequency shift" (see Abstract and Summary). It is respectfully submitted that the Wood patent does not disclose a virtually coherent signal controlled laser oscillator as is recited in Claim 1.

Looking at Fig. 2 of the Wood patent, it is seen that the microwave oscillator  $f_m$  is not a signal controlled microwave oscillator as is recited in Claim 1. There is no frequency control signal input to the microwave oscillator shown below the SSB-OFS in Fig. 2.

A master (source) laser provides an optical input signal  $f_c$  that is input to the SSB-OFS. It is respectfully submitted that the optical input signal  $f_c$  input to the SSB-OFS does not correspond to the presently claimed signal controlled laser oscillator that receives a fixed bias input signal and outputs an optical frequency signal  $f_0 + f_m$ . There is nothing disclosed or suggested in the Wood patent indicating that the master laser receives a fixed bias input signal, or that the optical input signal  $f_c$  corresponds to an optical frequency signal of  $f_0 + f_m$  as is recited in Claim 1.

Also, it is respectfully submitted that the SSB-OFS does not correspond to a single sideband mixer that processes the signal output by the laser oscillator and microwave oscillator to output a signal controlled optical frequency signal. It is respectfully submitted that the SSB-OFS is an optical frequency shifter, not a single sideband mixer as is recited in Claim 1. The term "mixer" is not used in the Wood patent, the disclosed structures do not provide for one.

In view of the above, it is respectfully submitted that the Wood patent does not disclose or suggest "a signal controlled laser oscillator that receives a fixed bias input signal and outputs an optical frequency signal  $f_0 + f_m$ ", "a signal controlled microwave oscillator that receives a frequency control input signal and outputs a microwave frequency signal,  $f_m$ ", or "a single sideband mixer that processes the signal output by the laser oscillator and microwave oscillator to output a signal controlled optical frequency signal", as is recited in Claim 1.

Therefore, it is respectfully submitted that the invention recited in Claim 1 is not disclosed or suggested by the Wood patent,. Accordingly, withdrawal of the Examiner's rejection and allowance of Claim 1 are respectfully requested.

Dependent Claims 2 and 3 are considered patentable based upon the allowability of Claim 1 a4. Therefore, it is respectfully submitted that the invention recited in Claims 2 and 3 are not disclosed or suggested by the Wood patent,. Accordingly, withdrawal of the Examiner's rejection and allowance of Claims 2, and 3 are respectfully requested.

The Examiner indicated that Claims 2 and 3 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The finding of allowable subject matter in this application is appreciated. However, Claims 2 and 3 have not been placed in independent form at this time pending the Examiner's consideration of the above arguments regarding the patentability of Claim 1.

The Examiner also indicated that Claims 4 and 5 were allowed. The finding of allowable subject matter in this application is appreciated.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure to the extent indicated by the Examiner.

In view of the above, it is respectfully submitted that all pending Claims are allowable over the art of record and that the present application is in condition for allowance. Reconsideration and allowance of this application are earnestly solicited. It is again respectfully submitted that this response does not require further searching by the Examiner, and places this application in condition for allowance, or in any event, places it in better condition for consideration on appeal.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kenneth W. Float", with a stylized flourish at the end.

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